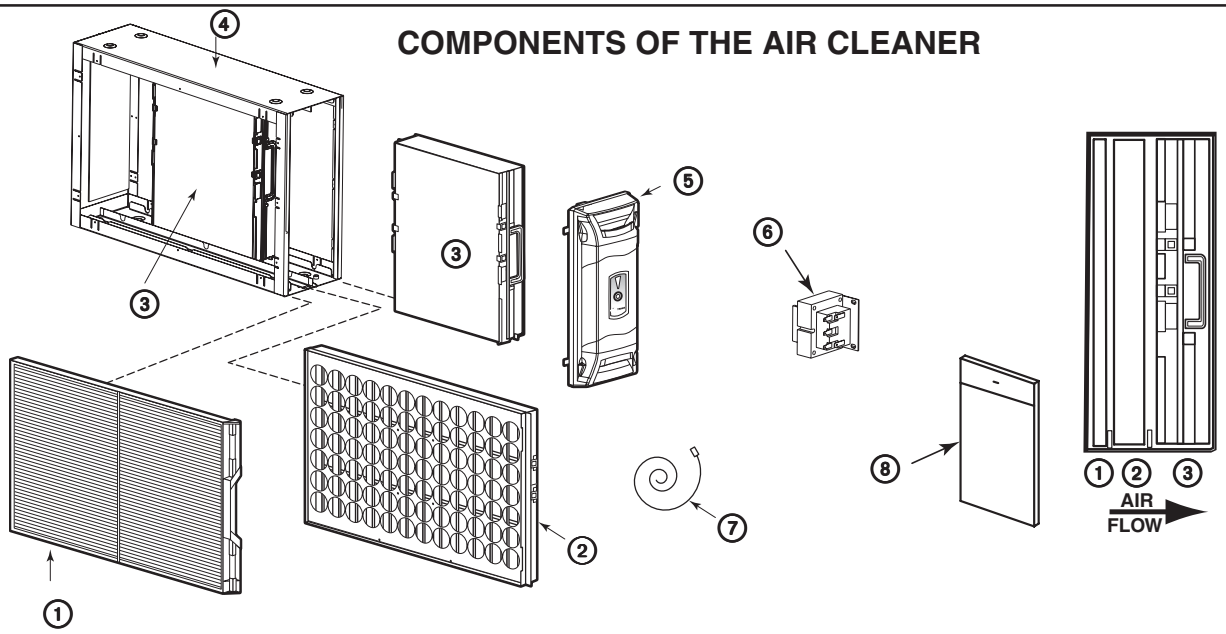
IFD AIR CLEANER SERVICE MANUAL

PUB NO. 34-3446-01

COMPONENTS OF THE AIR CLEANER



1) **Pre-filter** - traps large particles such as hair and lint before they can enter the cell section.
2) **Field Charger** - Charges the contaminants
3) **Collector Cell (2)** - removes and collects small impurities from the air.
4) **Cabinet** - mounts between the furnace/air handler and return air duct work and houses the collector cells, field charger and pre-filter.
5) **Power Door** - the solid state power supply components that convert the 24 Volt AC to the high-voltage, direct current required to power the field charger and cells. Allows access to the fluted collector cells, field charger and pre-filter.
6) **Transformer** - supplies 24 Volts to the indoor unit and air cleaner
7) **24 Volt Power / Control Cable**
8) **Gasket, Literature and Hardware Packet**

THEORY OF OPERATION

Air in the home is circulated through the heating and cooling system, maintaining the temperature at a comfortable level. At the same time, the circulated return air is passing through the indoor equipment millions of small air-born particles such as smoke and pollen, most of them are to small to be visible, are carried by the returning air to the Electronic Air Cleaner. The reasons this Electronic Air Cleaner efficiency is so superior to previous models is the new design of the ionizing section call the field charger section and the radical departure from charged metal collector plates to charged insulated collector cells. The air-born particles in the return air pass through the field charger section where the positive high voltage ionizer pins are located. The positive high voltage on the field charger pins will cause the air-born particles passing by them to become positively charged. The collector cells surfaces are insulated from the high voltage, which will reduce electrical arcing noise. These charged collector cells attract and hold the positively charged air-born particles to their negative insulated charged surfaces. An electrostatic electronic air cleaner makes use of the basic law of attraction, opposite charges attract.

⚠ WARNING

RISK OF ELECTRIC SHOCK: These servicing instructions are for use by qualified personnel only. To reduce the risk of electric shock, do not perform any servicing other than that contained in these operating instructions unless you are qualified to do so.

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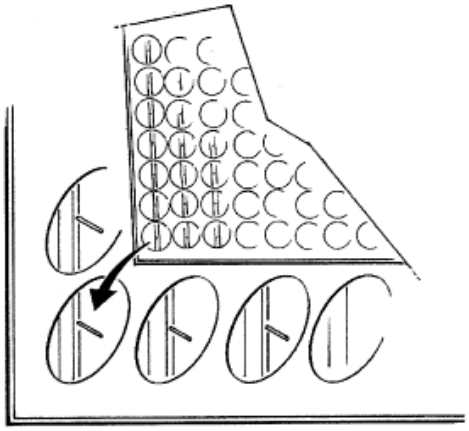
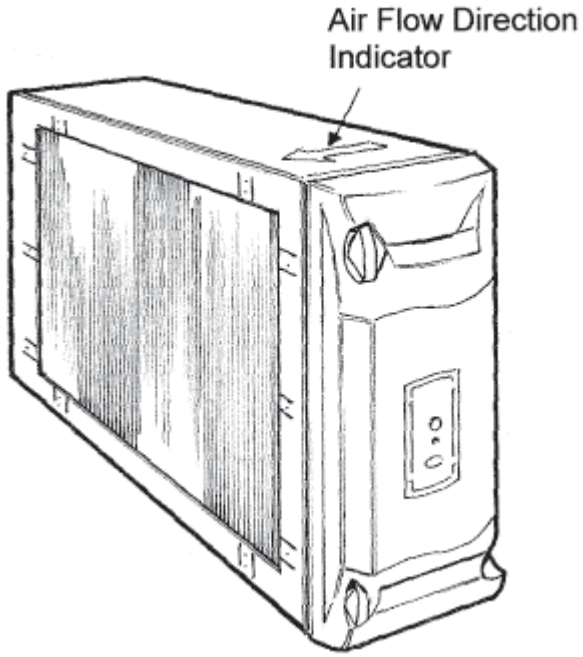


FIELD CHARGER IONIZER PINS ARE POSITIVE CHARGED.
AT THE NORMAL POWER SETTING THE IONIZER PINS WILL HAVE 9,600 VOLTS DC APPLIED TO THEM.
THE POWER SETTING CAN BE CHANGED IN THE SET UP MODE OF OPERATION.

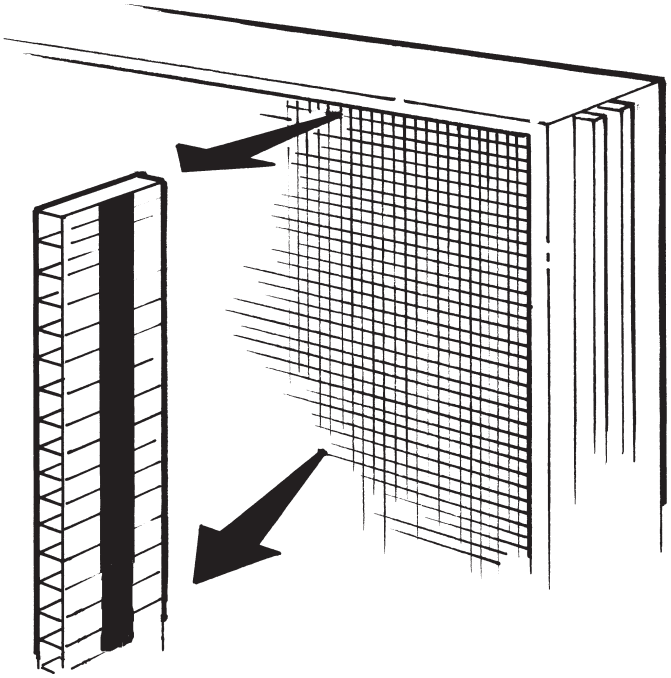


COLLECTOR CELLS ARE INSULATED CELLS WITH ONE SIDE OF THE CELL POSITIVELY CHARGED AND THE OTHER SIDE OF THE CELL NEGATIVELY CHARGED. A POSITIVELY CHARGED AIRBORNE PARTICLE WILL BE ATTRACTED AND HELD IN PLACE TO THE NEGATIVELY CHARGED AREA OF THE COLLECTOR CELL.

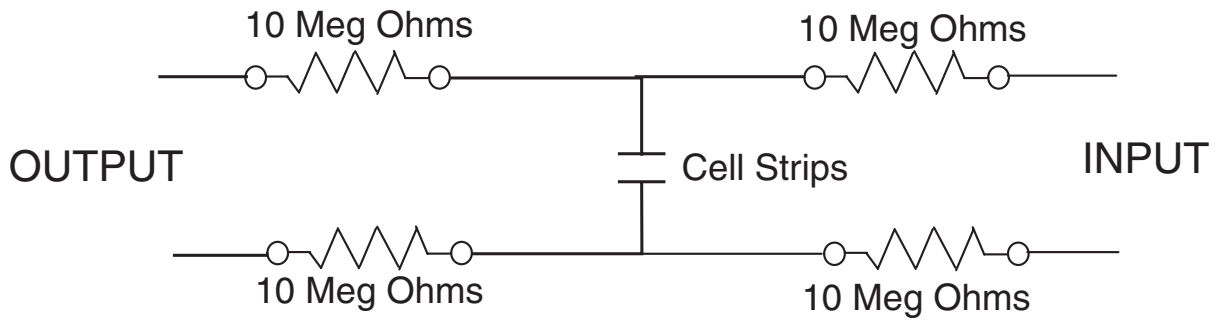
COLLECTOR CELL CONSTRUCTION

Collector cells start out as a strip of corrugated box plastic strips. On the top and bottom of the strip a conductive ink strip is applied. These inked plastic strips are then glued together, one on top of the other forming the collector cells. Electrically the cell is now a capacitor.

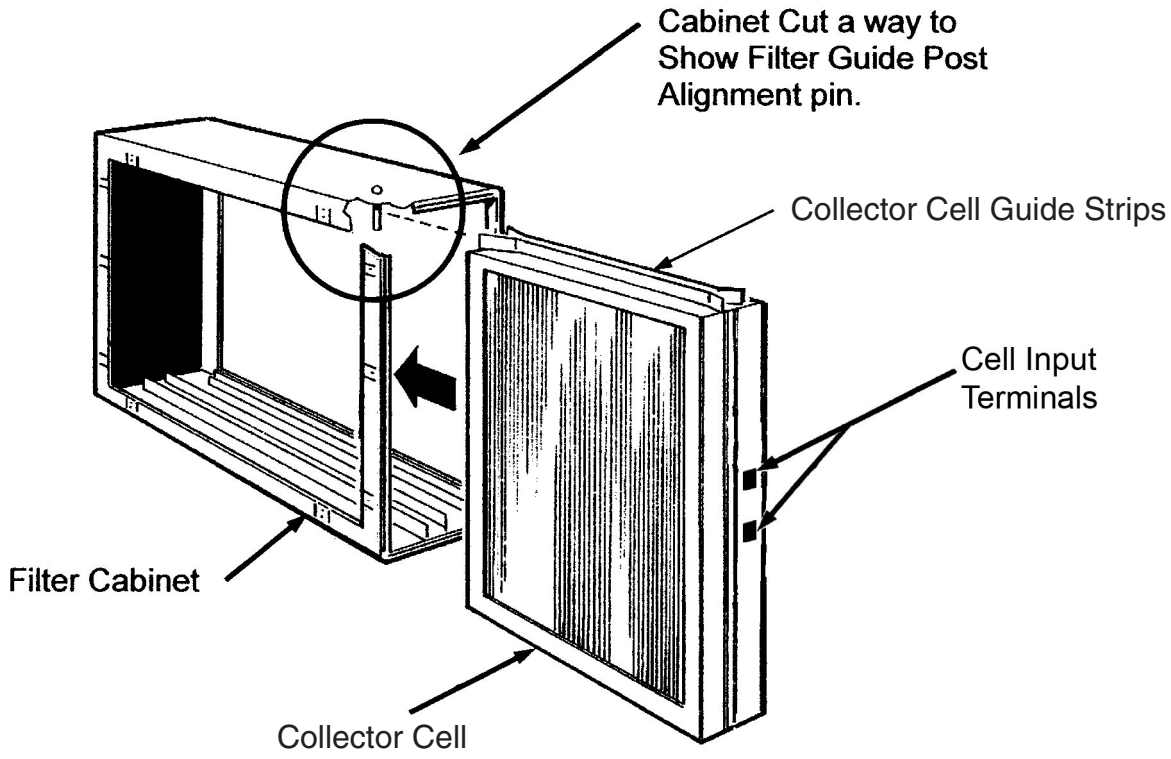
Capacitor Symbol



10 meg ohm resistors are placed in each leg of the cell to limit high current surges.



The standard Digital Ohm Meter will not read over 10 meg Ohms. The total resistance from the Collector High Voltage input terminal to it's High Voltage output terminal is 20 Meg Ohms.



⚠ CAUTION

Do Not expose filter to UV light. UV light can cause plastic material to deteriorate which may lead to filter damage

ELECTRICAL CONNECTIONS

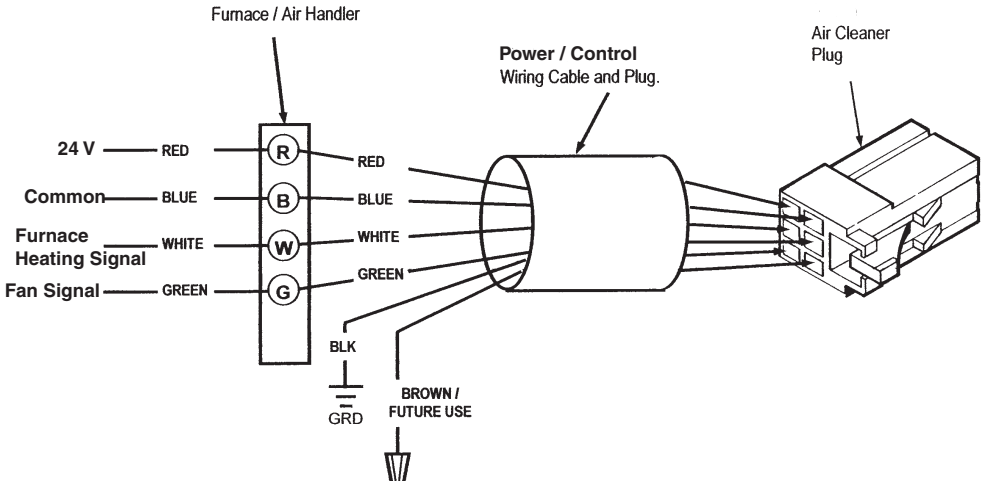
The air cleaner requires 24 Volt AC power and indoor fan signal for heating call to operate. A transformer adequately sized to power both the system and air cleaner is provided with the air cleaner.

NOTE: A 50 VA transformer is required for Furnace applications and 75 VA required for Air Handler applications. If the indoor air handler already has a properly sized transformer, no replacement is required.

Plug the air cleaner power/control cable into the air cleaner door and route the cable into the indoor unit low voltage wiring location.

2

WIRING DIAGRAM



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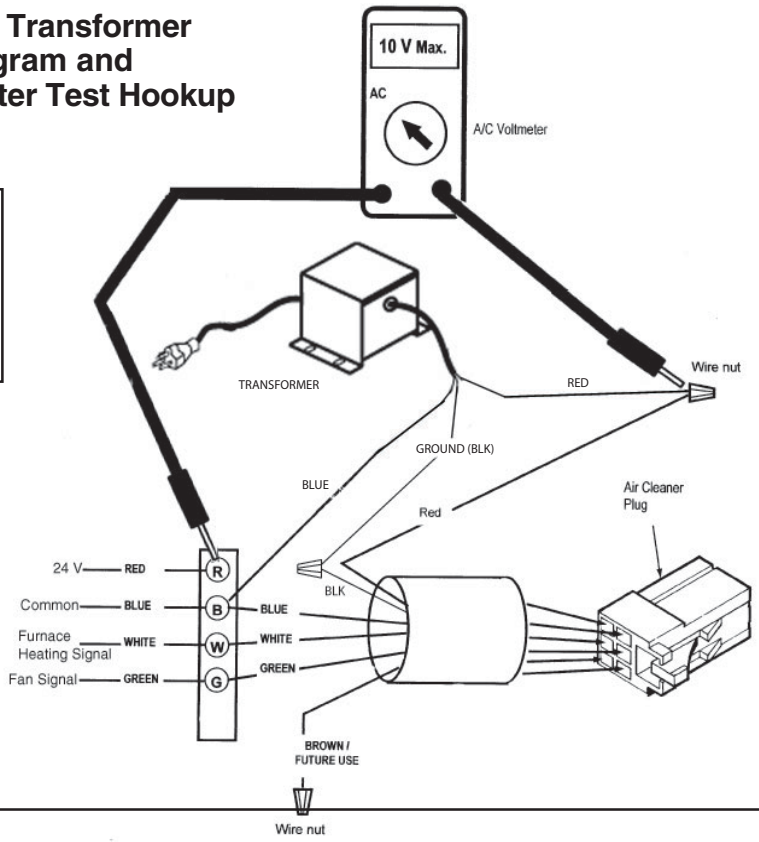
Wall Mount Transformer Wiring Diagram and A/C Voltmeter Test Hookup

NOTE: If Volt meter reads above 10 VAC, reverse the 24 Volt AC leads coming from the wall mounted transformer to the Electronic Air Cleaner cable plug.



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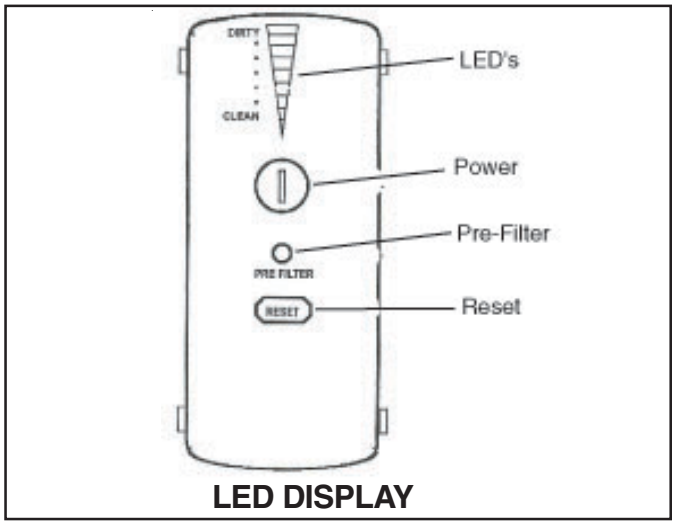


LED DISPLAY

DISPLAY FEATURES (Fig. 4)

The air cleaner display can be used for several functions.

- Provide the homeowner the operating status of the air cleaner, including an indication the pre-filter or cells need cleaning.
- The installer access the set-up mode to change the time to clean settings for the pre-filter and collection cells as well as reduce the ozone generated by the air cleaner if needed.
- The unit will display fault codes for the homeowner indicating there is a problem with the air cleaner and various fault codes for the service technician to assist in troubleshooting the problem.

AIR CLEANER OPERATION

Turn the electronic air cleaner on by pushing and releasing the Power button. The back lighted Power and Filter Reset buttons will illuminate along with the first green LED (G1) indicating 24 volt power is present to the air cleaner.

When the indoor fan is operating the first LED (G1) will slowly flash. This indicates the field charger and collection cells have power and the unit is operating normally. There is a slight time delay between the indoor fan starting and LED (G1) flashing. Time delay for "G" fan is 10 seconds. Time delay for heating is 90 seconds.

NOTE: There is a 10 minute delay after the indoor fan operates, before the air cleaner starts to operate, each time the power to the air cleaner is turned off/on. This can be bypassed by going into and then out of the set-up mode

SET-UP MODE

A combination of RED, YELLOW, and GREEN LED's are used to indicate the following settings.

- The three GREEN LED's are used to indicate pre-filter cleaning interval. This is measured in actual run time of the indoor fan. The default setting is 2 months.
- The four YELLOW LED's indicate the collection cell cleaning interval. This is measured in actual run time of the indoor fan. The default setting is 6 months.
- The three RED LED's indicate the power setting. The default setting is normal.
- A combination of flashing green, red and yellow LED's are fault codes. See Fault Codes on Page 9.

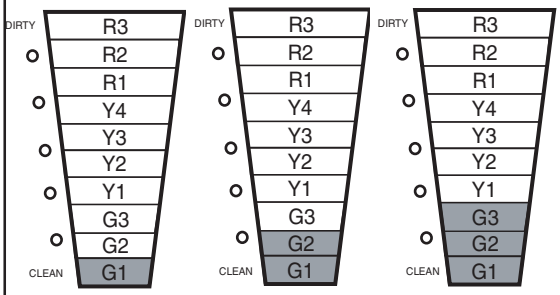
SET-UP MODE OF OPERATION

To enter the Set-up Mode press and hold both the Power and Reset buttons for a minimum of 5 seconds. The display will go blank and then the programmed settings are displayed. If this is the desired setting or at any time you want to exit the set-up mode, press and hold BOTH the Power and filter Reset buttons for a minimum of 5 seconds to exit.

To change any of the settings, press the Power button once.

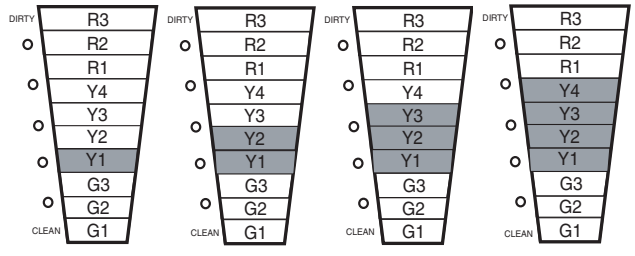
PRE-FILTER SETTING (Fig.5)
One or more of the GREEN LED's will come on indicating the pre-filter cleaning time setting. Repeatedly press the Reset button to cycle through the time options for the pre-filter cleaning cycle until the desired setting is displayed. Press the Power button once to accept that setting and move to the cell cleaning settings.

5 **GREEN LED PRE-FILTER SETTINGS**



CELL CLEANING SETTING(Fig.6)
One or more of the YELLOW LED's will come on indicating the collector cell cleaning time setting. Repeatedly press the Reset button to cycle through the time options for the collector cells cleaning cycle until the desired setting is displayed. Press the Power button once to accept that setting and move to the power settings.

6 **YELLOW LED COLLECTOR CELL SETTING**



** Factory Setting

In normal operation, the air cleaner may make a slight sound as the air passes through it and is cleaned. In some applications, you may notice this sound coming from the return air vent(s). If desired, this sound level can be reduced with minimal impact on air cleaning efficiency by reducing the power setting of the field charger in the set-up mode

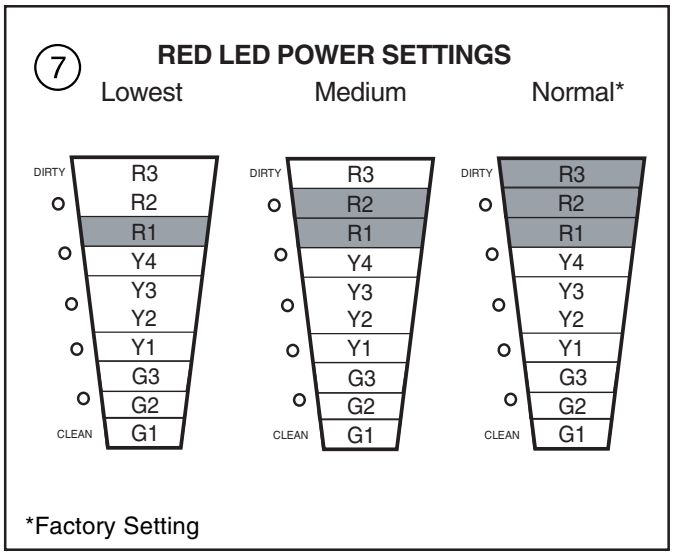
SETTING THE POWER LEVEL

All electronic air cleaners produce a small amount of ozone that is within established limits. Some customers may notice an odor especially at high altitudes and low air flow rates.

The average person can detect the odor of ozone in the range of 3 to 10 parts per billion (ppb) The air cleaner will contribute 5 ppb of ozone to the indoor air on the NORMAL setting. The U.S. Food and Drug Administration recommends indoor ozone concentrations should not exceed 50 ppb.

One or more of the RED LED's will come on indicating the Power setting. Repeatedly press the Reset button to cycle through the Power setting options until the desired setting is displayed.

To exit the set-up mode, press and hold BOTH the Power and filter Reset button for a minimum of 5 seconds. The current settings will be saved.



*Factory Setting

FAULT CODES

The air cleaner LED's will display a fault indication, three yellow or three red LED's, when a fault has been detected. A log of the last three faults is recorded and can be accessed by going into the set-up mode. The unit will repetitively check the system to determine if the fault persists. The fault indication will be displayed as long as the fault condition remains.

If the fault is no longer present, the system will return to normal operation and no longer display the fault indication. Even if the fault has been cleared, a log of the last 3 faults is recorded.

THREE YELLOW LEDs FLASHING

These LEDs flashing on and off means that the Pre-Filter or the Collector cells need to be cleaned. The air cleaner control has detected ten consecutive automatic High Voltage Shut Down (HVSD) cycles. An automatic HVSD cycle is normally activated by the control system when an internal electrical arc occurs.

LitePort DATA

When the air cleaner has detected a fault and it is flashing it's three RED LEDs on and off it will also be sending the fault data to the pre-filter LED causing it to flash on and off. This fault data can be read using a LitePort Optical Coupler. To activate the LitePort data port during normal operation remove 24VAC power from the electronic air cleaner. Push and hold in the reset button while applying the 24VAC power to the electronic air cleaner. The LitePort data will then be outputted via the prefilter LED. The LitePort data will now be continuously outputted until the 24 VAC power is remover from the electronic air cleaner.

THREE RED LEDs & THE Pre-filter LED FLASHING

This means service is needed. For these THREE RED LEDs to be flash on and off the control must have detected the SAME FAULT, see Fault Code Table on page 9, THREE TIMES in a row after an automatic High Voltage Shut Down cycle.

FAULT CODES RETRIEVAL

To retrieve the last three faults that the Air Cleaner Control has detected enter the Set Up Mode of operation.
Press and hold the Power/On ⏻ button and the Reset button for a minimum of five seconds. When the control enters the SET UP MODE of operation some of the Green, Yellow and Red LEDs will be on. The color and number of LEDs that are on indicates how the control is presently programmed. (See SET UP CHARTS on a previous page). To enter the Fault Codes section press and hold the Reset Button for ten seconds. After ten seconds the main LED display will go out for one second and then some of the LEDs may began to flash on and off. If no fault has been detected then only the first Green LED will be flashing on and off. The flashing Green LED or LEDS identifies the fault number being reported out. One Green Led flashing on and off means the last fault detected is being reported out, two Green LEDs flashing means the second fault detected is being reported out and three Green LEDs flashing means the last fault stored in the control memory is being reported out. The last three faults detected will be stored in the control's memory and the last fault detected will be the first fault reported out.

You are now in the Fault Log report section and the last fault detected is now being reported out.
To step through the faults press the Power/On ⏻ button again to get the second fault and again pressing the Power/On ⏻ button will take you to the last fault stored in the control's memory. Push the Power/On ⏻ button again and the control will again display the last fault detected.

To exit the Set-up mode, press and hold both thePower/On ⏻ and Filter reset buttons for a minimum of 5 seconds.

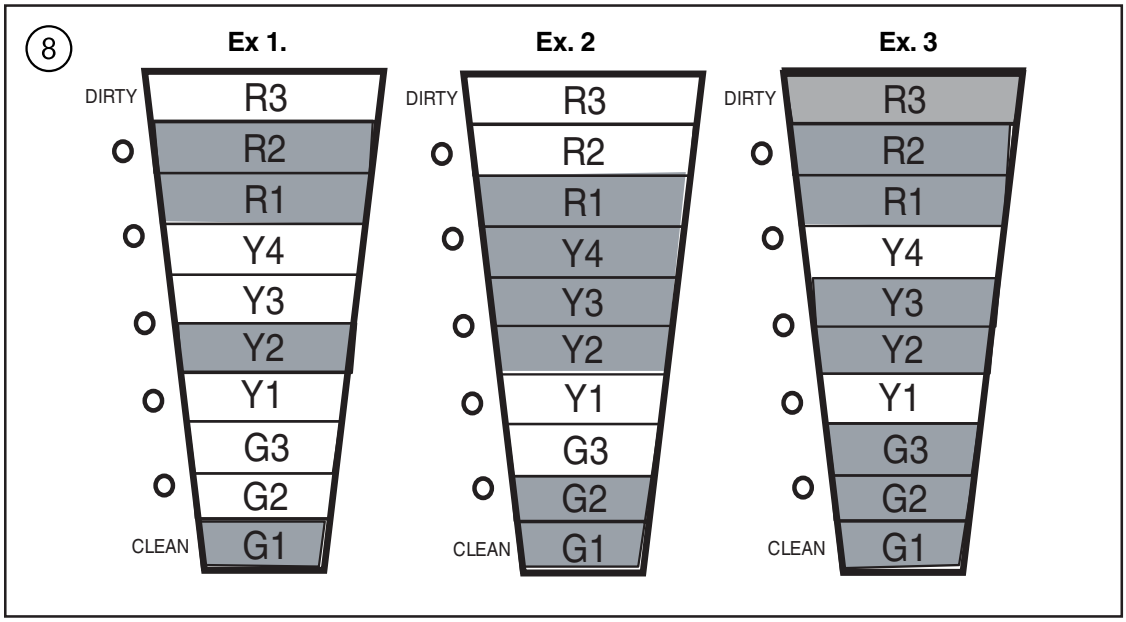
FAULT CODES

When a fault is being reported out check the position number of any of the Yellow and Red LEDs flashing on and off. Compare this combination of flashing LEDs position numbers to the Fault Code chart to see which fault has been detected. The number one Yellow LED will always be out in the Fault Code report section.

FAULT CODES	YEL-1	YEL-2	YEL-3	YEL-4	RED-1	RED-2	RED-3	SERVICE PROCEDURE
No Fault Detected		OFF	OFF	OFF	OFF	OFF	OFF	
Input AC Voltage too Low					ON			**1**
HV OUTPUT VOLTAGE FAULT								
HV off when it should be on		ON			ON			**2**
HV too LOW		ON			ON	ON		**3**
HV too HIGH		ON			ON	ON	ON	**4**
Repetitive Arcing		ON	ON	ON				**5**
INPUT CURRENT FAULTS								
Input Current off when it should be on		ON	ON		ON			**6**
Input Current too LOW		ON	ON		ON	ON		**7**
Input Current too HIGH		ON	ON		ON	ON	ON	**8**
Internal Control Lockout		ON	ON	ON	ON			**9**
One or More Buttons Stuck ON		ON	ON	ON	ON	ON		**10**

1. Check AC line voltage, is ship with transformer installed?
2. Check set up / Replace power door.
3. Remove power door and recheck high voltage-still low replace power door, if now OK, check cells and field charger.
4. Replace power door.
5. Clean Collector cells and Field Charger - If they are clean check for arcing through the plastic frame.
6. Check set up / Replace door.
7. Check Collector cells and Field Charger connector pins.
8. Clean Collector Cells and Field Charger. Check for arcing through the collector cell and field charger cases.
9. Repower air cleaner - check for normal operation. Replace door if same fault comes back.
10. Check to see if buttons operate smoothly and are not obstructed.

Examples: see fig. 8
Ex. #1: The most recent fault condition was a High Voltage “HV was Low”
Ex. #2: The second fault condition was “Internal Control Lockout”
Ex. #3: The third fault condition was “Input Current too High”



To clear the all three faults codes from the control’s memory press and hold the Reset button for 2-4 seconds when the fault codes are displayed. When the fault memory is cleared the Yellow and Red LEDs will go out for all three fault locations. The Green LED or LEDs will remain on to mark the fault number, first, second or third fault.

TESTING COMPONENTS USING THE UNIT'S OWN MICRO & LEDs

There are four tests that can be performed in the field. These Tests are for testing the High Voltage Relay, LEDs, High Voltage Output and the Thermostat Inputs.

To enter the TEST Mode of this control perform the following.

1. Push and hold the Power Button until all ten LED come on, then release the Power Button. The air-cleaner is now off and the LEDs should step off one at a time.
2. Press the Reset Button three times in a row within 20 seconds and the Prefilter LED will come on.
3. Quickly push and hold the Power Button and the Reset Button at the same time, the Prefilter LED will then go out and then come back on flashing. The Prefilter LED will continue to flash as long as the control is in the test mode. The Prefilter LED is now sending LitePort data.
4. There are three ways to exit the test mode, (1)remove power, (2)press the Power Button and the Reset Button in and hold them in for five seconds or (3)do not push any buttons for five minutes.
5. The Green LEDs chart, below, will show which of the four tests you are in.

At this time the first Green LED should be on. This indicates that you are in the HV(HIGH VOLTAGE) Relay Test mode.

TEST	1st Green LED	2nd Green LED	3rd Green LED
HV Relay Test	ON		
LED Test	(All LEDs will initially energize upon entry into LED Test mode.)		
HV Output Test	ON	ON	
Thermostat Input Test			ON

6. There are three tests in the HV Relay Test section. See Chart below. A Yellow LED will show which test you are in. Test 1 the 1st Yellow LED will be on, Test 2 the 2nd Yellow LED will be on and in Test 3 the 3rd Yellow LED will be on. Push the Reset Button once to move to the next test in this section.

TEST	Yellow LEDs	Description
0% Duty Cycle on HV Relay PWM output	1st Yellow	HV relay should remain off. The control will check the HV. It should be 0 volts.
HV Input Current Test	2nd Yellow	HV relay should remain off after brief double click. The control will expect the HV output to be 0 volts.
90% stepping down to 75% Duty Cycle on HV Relay PWM output	3rd Yellow	Control will check the HV supply, it should be 9.6KV. +/- 600 volts

7. One of the three Red LED will indicate the condition of the each test.

When the Third Red LED is on this indicates that the High Voltage measured is out of range.

When the Second Red LED is on indicates that the High Voltage Current and Voltage are in their proper operating range.

When the First Red LED is on indicates that the High Voltage Input Current is out of range.

8. Push the Power Button once, this will move the control into the LED test Mode. All 10 barograph LEDs and the two backlight LEDs below the two buttons should come on. The communication LED on the main printed circuit board will light also.
9. By pushing the Reset Button you can cause one of the 12 LEDs after another to come on and go off.
10. Push the Power Button once, this will move the control into the High Voltage Output Test. There are four HV (High Voltage) tests in this section. See chart below. A Yellow LED will show which test you are in. For Test 1 the first Yellow LED will be on, Test 2 the 2nd Yellow LED will be on, Test 3 the 3rd Yellow LED will be on and Test 4 the 4th Yellow LED will be on. Push the Reset Button once will move you in to the next test of this section.

Test	Yellow LED	Description
HV Output = 0V	1st Yellow	HV Supply output should be off. Indicate a fault if the input current and HV checked are out of range.
HV Output = 9.6KV	2nd Yellow	HV Supply output should be 9.6KV. Indicate a fault if the input current and HV checked are out of range.
HV Output = 9.0KV	3rd Yellow	HV Supply output should be 9.0KV. Indicate a fault if the input current and HV checked are out of range.
HV Output = 8.0KV	4th Yellow	HV Supply output should be 8.0KV. Indicate a fault if the input current and HV checked are out of range

11. One of the three Red LED will indicate the condition of the each test.
    When the Third Red LED is on this indicates that the High Voltage measured is out of range.
    When the Second Red LED is on indicates that the High Voltage Current and Voltage are in their proper operating range.
    When the First Red LED is on indicates that the High Voltage Input Current is out of range.
12. Push the Power Button once, this will move the control into the Thermostat Input Test. There are two Thermostat Input test in this section. See chart below.

Test	Description
W Thermostat Signal /Heating Call	When the "W" input signal is present, the 3rd Yellow LED will be on. If there is no W Thermostat Signal the 3rd Yellow LED will be off.
G Thermostat Signal /Indoor Blower Call	When the "G" signal is present, the 4th Yellow LED will be on. If there is no G Thermostat Signal the 4th Yellow LED will be out.

13. The 24 volt signal AC input voltage will be measured in this test. If the AC input voltage is detected below the minimum level of 17.5 - 18.75 VAC then the control will turn on the 3rd Red LED. The control will turn on the 2nd Red LED if the AC input voltage is detected above the 17.5 -18.75 VAC minimum level.

TESTING THE POWER DOOR

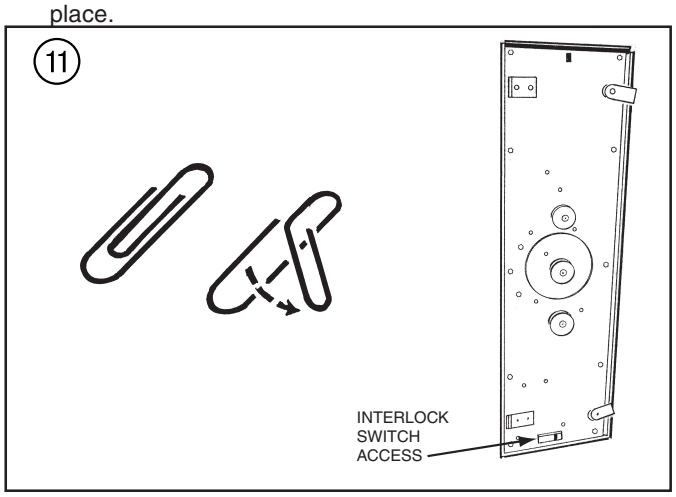
HIGH VOLTAGE POWER SUPPLY

Tools Required

A High voltage Probe and a compatible Volt /Ohm Meter or a Screwdriver, Jumper Wire with Alligator Clips on each end, tape and dry paper.

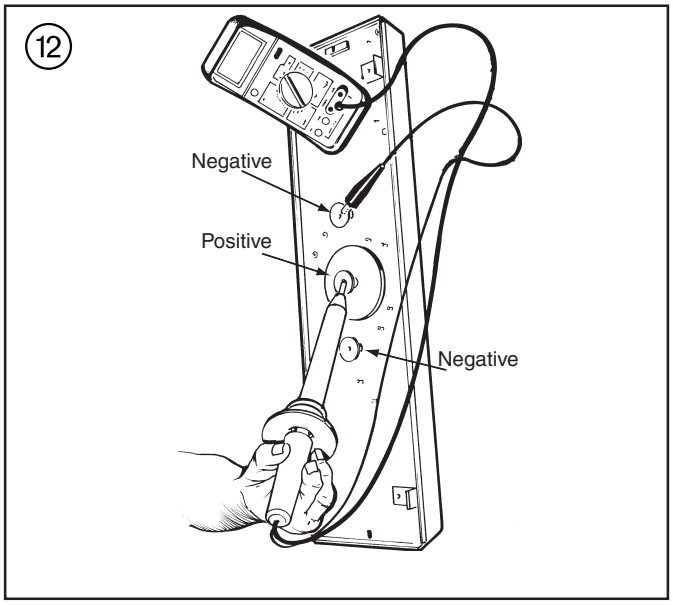
TESTING WITH A HIGH VOLTAGE PROBE

1. Turn off the Air Cleaner and remove the Power Door.
2. Form a piece of wire that will go through the interlock switch opening and depress the interlock switch blade. Tape it in place.



CAUTION HIGH VOLTAGE PRESENT FOR THIS TEST

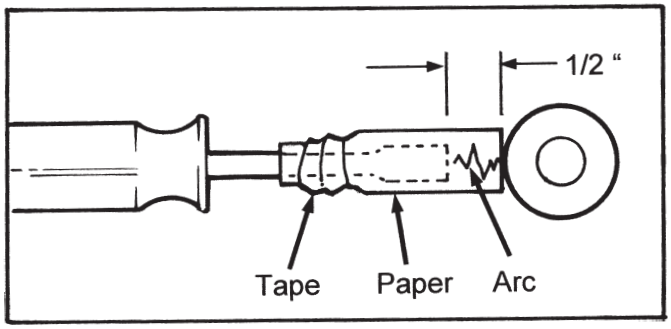
3. Turn on the air cleaner, and then enter the Set Up Mode by pushing and holding both the Power button and the Reset button for 5 seconds. The barograph display will show the air cleaners current settings. (See Set UP Mode instructions) The top three Red LEDs should be on for this test. The three Red LEDs being on indicates that the air cleaner Power setting is set at the Normal / 9.6 KV position. If all three are NOT on press the Power button three times and then press the Reset button until you get all three Red LEDs on. Now press and hold both the Power button and the Reset button for five seconds then release these buttons to leave the set-up mode. The first Green LED should be on and then start flashing after the time delay to on has expired. The air cleaner has to have a call for operation for the first Green LED to flash on and off. (A call for indoor blower or heat is a call for operation.)
4. When the first Green LED is flashing on and off connect the High Voltage Probe and compatible volt/ohm meter per their manufactures instructions.



5. Touch the tip of the High Voltage Probe to the Power Door High Voltage (center) terminal and read the volt meter
6. If the voltage read during this test is 9.6 KV + or – 600 volts the power door is working correctly. Replace door if the high voltage is not correct.
7. Turn off the air cleaner by pushing the Power button .

TESTING WITH A SCREWDRIVER, A JUMPER WIRE AND A DRY PIECE OF PAPER

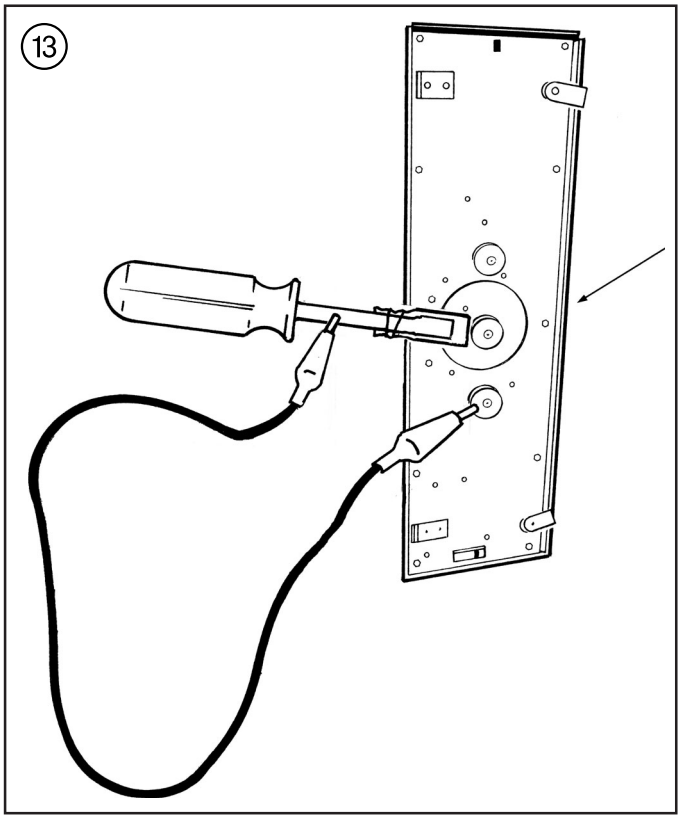
1. Turn off the Air Cleaner and remove the Power Door.
2. Form a piece of wire that will go through the interlock switch opening and depress the interlock switch. Tape it in place. See Fig. 11
3. Tape a piece of paper to a screwdriver blade with ½ inch of the paper sticking out in front of the blade. Do not put the tape over the end of the screwdriver blade.



4. Connect the jumper wire using the alligator clips to the screwdriver and the power door metal frame or Negative contact.

CAUTION HIGH VOLTAGE PRESENT FOR THIS TEST

5. Turn on the air cleaner, and then enter the Set Up Mode by pushing and holding both the Power button and the Reset button for 5 seconds. The barograph display will show the air cleaners current settings. (See Set UP Mode instructions) The top three Red LEDs should be on for this test. The three Red LEDs being on indicates that the air cleaner Power setting is set at the Normal / 9.6 KV position. If all three are NOT on press the Power button three times and then press the Reset button until you get all three Red LEDs on. Now press and hold both the Power button and the Reset button for five seconds then release these buttons. The first Green LED should be on and then start flashing after the time delay to on has expired. The air cleaner has to have a call for operation for the first Green LED to flash on and off. (A call for indoor blower or heat is a call for operation.)
6. When the first Green LED is flashing on and off take the screwdriver by the plastic handle and move the blade end of the screwdriver near the Power Door High Voltage terminal. When the end of the paper touches the High Voltage terminal the High Voltage should arc across the paper. When the arc occurs the High Voltage Supply will shut down and stay off for ten minutes.



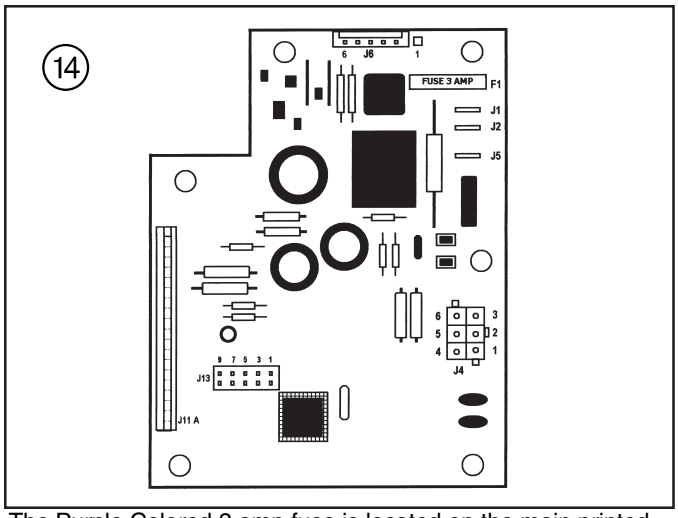
7. Turn off the air cleaner by pushing the Power button.
8. If the arc occurred when the end of the paper was near or touching the Power Door High Voltage terminal during this test the Power Door assembly is OK, if no arc occurred replace Power Door.

FUSE REPLACEMENT

A fuse, located inside the power door, protects the power supply components against damaging electrical currents. This fuse has a rating of 3 amps and is a Purple color automobile style fuse.

TO CHECK OR REPLACE THE FUSE

Disconnect the power cord from the front of the power pack door. On the inside of the door remove the screws along the outer edge to separate the metal door from the plastic cover.

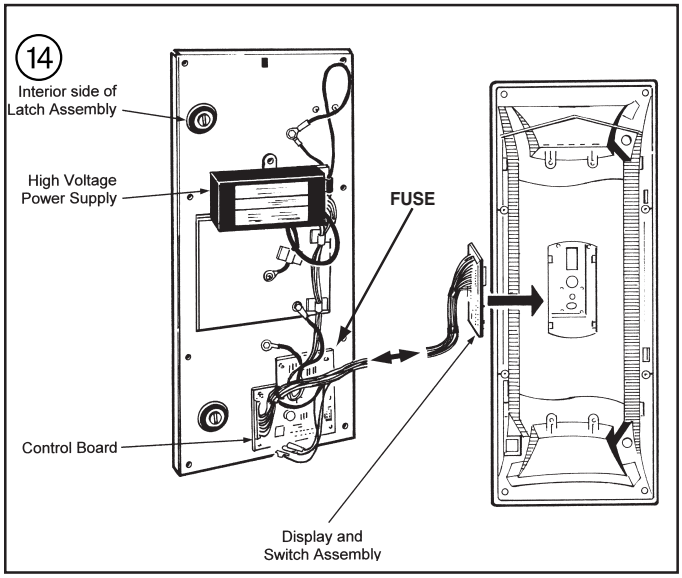


The Purple Colored 3 amp fuse is located on the main printed circuit board. Replace the fuse if blown and reassemble the power door.

NOTE: When reassembling the inter panel to the power pack door, ensure that the wiring is positioned to avoid interference.

Re-install the door on the cabinet, plug in the power/control cable and check for proper operation of the electronic air cleaner.

The other electrical components inside the power door are not field replaceable, the power door is available a complete assembly from your distributor.



PRESSURE DROP AT SPECIFIC AIRFLOW PER MODEL									
	400 CFM	600 CFM	800 CFM	1000 CFM	1200 CFM	1400 CFM	1600 CFM	1800 CFM	2000 CFM
*FD145ALFR	0.04	0.09	0.14	0.20	0.27				
*FD175ALFR	0.03	0.06	0.10	0.14	0.19	0.24	0.30		
*FD210ALFR	0.02	0.04	0.07	0.10	0.13	0.17	0.21	0.26	0.31
*FD245ALFR	0.01	0.03	0.05	0.07	0.10	0.13	0.16	0.19	0.23
*FD14DALFR	0.07	0.14	0.22	0.32	0.44				
*FD17DALFR	0.05	0.09	0.15	0.22	0.30	0.39	0.49		
*FD21DALFR	0.03	0.07	0.11	0.15	0.21	0.27	0.34	0.42	0.50
*FD24DALFR	0.02	0.05	0.08	0.12	0.16	0.20	0.25	0.31	0.37
*FD215ALAH	0.03	0.06	0.10	0.15	0.20				
*FD235ALAH	0.02	0.05	0.09	0.12	0.17	0.22	0.27		
*FD260ALAH	0.02	0.04	0.07	0.10	0.14	0.18	0.23	0.28	0.33

* May be "A" or "T"

⚠ CAUTION

High Voltage is present within the air cleaner for operation. Before removing the door, turn the power off and wait at least 15 seconds to allow voltage to discharge.

CLEANING

1. Turn the air conditioning system off at the thermostat
2. Turn off power to the air cleaner by pushing and holding the power button for three seconds. The LED's will remain on until the voltage has discharged and it is safe to remove the door. This requires approximately 15 seconds. Do not remove the door till all lights are off.
3. Disconnect the power/control cable if required to place the door in a secure location.

PRE-FILTER CLEANING

The pre-filter may be vacuumed or washed to clean. The pre-filter should be completely dry before re-installing.

NOTE: Do not replace the plastic pre-filter with a metal type pre-filter. A metal pre-filter will cause reduction in efficiency and potential failure of the electronics in the air cleaner

COLLECTION CELL CLEANING

The collection cells may be cleaned either by vacuuming (recommended method) or by washing.

VACUUM CLEANING

Vacuum both sides of the collection cells to clean.

WASHING

Use low-pressure water spray, such as a sink sprayer or garden hose to clean the cells. Some residue may require warm water to be removed.

- **Do NOT use soap or detergent in cleaning the collection cells.**
- **Do NOT immerse the cells completely in water.**
- **DO NOT PLACE THE CELLS INTO A DISH-WASHER TO CLEAN**

Slightly tap the collection cells to remove water retained in the filter. Allow the collection cells to dry before re-installing.

Re-install the pre-filter and collection cells. Be sure to fold the collection cell handles flat. Install the door and plug in the power/control cable if removed. Turn on power to the air cleaner. by pressing and releasing the Power button .

NOTE: The first green LED will be on but will not flash for the first 10 minutes the indoor fan is operating. This is a drying cycle for the pre-filter and collection cells.

RESET TIMERS

To reset the pre-filter timer, press and hold the RESET button until the pre-filter LED turns off. (1 to 2 seconds)
To reset the collection cell timer, press and hold the RESET button until the collection cell LED's turn off. (4 to 5 seconds)

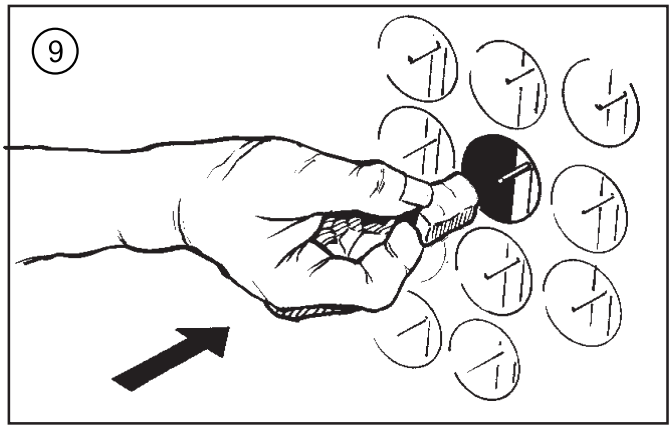
CLEANING THE FIELD CHARGER

1. Turn off the air cleaner and remove the power door.
2. Bend the field charger metal locking tabs down against the case.
3. Remove the field charger from the case. Lay the field charger on a secured flat surface.

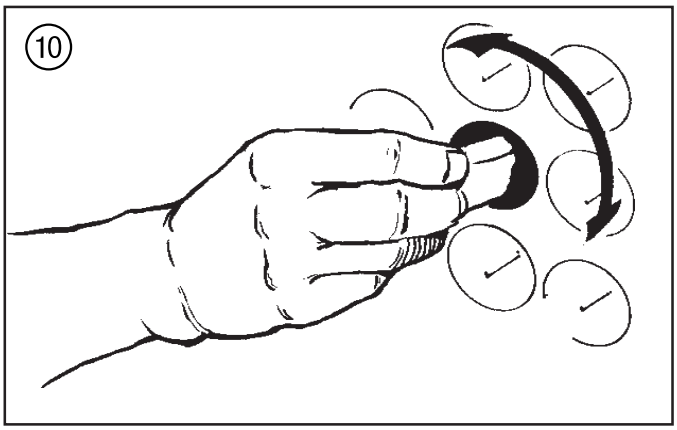
CAUTION FIELD CHARGER PINS ARE SHARP. DO NOT BEND FIELD CHARGER PINS. WEAR APPROPRIATE GLOVES WHEN HANDLING THE FIELD CHARGER.

4. Wipe down the face Plate of the field charger with a dry shop towel or use a vacuum cleaner. Do not disassemble the field charger.

5. Push a block of foam down over the Field Charger Pin.



6. Rotate the foam block on the Field Charger Pin.



7. Use the foam block to clean the faceplate opening edges.
8. Repeat steps 5,6 and 7 for each Field Charger Pin.
9. Put face plate back on Field Charger frame if removed in step #4.
10. Put Field Charger back into the air cleaner frame and bend the locking tabs back up against the Field Charger.

TROUBLESHOOTING	
Service Indications	Service Checks
Indoor Blower ON/ Air Cleaner First Green LED OFF	1. Check that the Power Door is installed correctly and the latches closed. The actuator tab has engaged the door switch. 2. Check the air cleaner power/control cable. 3. Push the power button once.Button back light should be on. 4. Check for 24 Volts AC at the Air Cleaner Power plug. 5. Check the Fuse inside the Power Door.
Indoor Blower ON/ Air Cleaner First Green LED ON, Not Flashing	1. Air Cleaner is in the 10 minute DRY CYCLE. 2. No call for Air Cleaner Operation due to no 24 volts AC call going to G or W from the Furnace or Air Handler. 3. There is no High Voltage being provided to the Field Charger or the Collection Cells. Inspect the Field Charger assembly and Collection Cells for any foreign material that may be lodged in them. Clean as needed, reassemble and test. 4. If the Air Cleaner still does not work, remove Power Door from the Air Cleaner housing.
CAUTION HIGH VOLTAGE WILL BE PRESENT FOR THE REMAINDER OF THIS TEST.	
	5. With the indoor blower running and the power cord plugged into the Air Cleaner, use a tool to activate the Power Door interlock switch. Push the power button once. The first green LED should come on and after the time delay it should start to flash. If the LED starts to flash then the fault is with the Collection Cells or the Field Charger. If the first Green LED does not start to flash the fault is with the Power Door.
Indoor Blower ON/ Four Yellow LEDs Flashing	1. Remove the Power Door, Field Charger & Collection Cells. Inspect for foreign material, clean if needed.
Indoor Blower ON three Red LEDs Flashing	1. This indicates service is needed. See Service Facts for fault code information.

American Standard Inc.
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Tyler, TX 75707

For more information contact
your local dealer (distributor)